

What Is Claimed Is:

1. A cell observation chamber in an apparatus used for detecting cell chemotaxis and for isolating chemotactic cells, said chamber comprising:

a dish-shaped bottom support body with a window for observing the movement of cells provided in the center of the bottom part thereof;

a glass substrate adapted to be placed on the bottom surface of said bottom support body;

a dish-shaped intermediate support body with an opening portion formed in the center of the bottom part thereof, said intermediate support body being adapted to be attached to said bottom support body to press and fix said glass substrate from above onto the bottom surface of said bottom support body;

a substrate with a plurality of through holes for guiding cell suspension and chemotactic factor containing solution therethrough formed therein in a vertically penetrating manner, said substrate being adapted to be fixed onto the surface in the central part of said glass substrate, in which a concavo-convex shape is formed in the surface facing said glass substrate to form at least a pair of wells and a flow path for communicating of said wells with said glass substrate;

a packing member with a plurality of through holes for guiding said cell suspension and said chemotactic factor containing solution therethrough formed therein in a vertically penetrating manner, said packing member being adapted to be fitted into said opening portion that is formed in the center of the bottom part of said intermediate support body to press said substrate from above; and

a dish-shaped cover block body with a plurality of through holes for guiding said cell suspension and said chemotactic factor containing solution therethrough formed in the center of the bottom part thereof in a vertically penetrating manner, said cover block body being adapted to be attached to

said bottom support body with said intermediate support body attached thereto to press and fix said substrate from above onto said glass substrate through said packing member, wherein

one of said pair of wells is adapted to be provided or given with said cell suspension through each one of said plurality of through holes that are formed, respectively, in said cover block body, said packing member, and said substrate, while the other of said wells is adapted to be provided or given with said chemotactic factor containing solution through each one of said plurality of through holes that are formed, respectively, in said cover block body, said packing member, and said substrate, so that a state where cells move from one to the other of said wells through said flow path is observed and the number of said cells is measured through said window provided in said bottom support body, and wherein

the attachment of said intermediate support body to said bottom support body and of said cover block body to said bottom support body is achieved by bringing the respective contact surfaces into vertically pressurized contact with each other using lever mechanisms or clamp mechanisms with a cam mechanism incorporated therein.

2. The cell observation chamber according to claim 1, wherein said cam mechanism comprises: cam grooves formed, respectively, in both leg parts of two U-shaped levers that are supported rotatably by said bottom support body; and pins implanted, respectively, at two corresponding points on the outer peripheral surface of said intermediate support body and said cover block body, said pins being adapted to move within said cam grooves in a sliding manner.

3. The cell observation chamber according to claim 1, wherein a guide block body is further attached to said cover block body, in said guide block

body being formed a plurality of through holes for guiding a micropipette that has inhaled either said cell suspension or said chemotactic factor containing solution therethrough in a vertically penetrating manner.